



1/10/03

PTO/SB/21 (08-03)

1634

TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	09/721,506
	Filing Date	November 22, 2000
	First Named Inventor	Cech, Thomas
	Art Unit	1634
	Examiner Name	Sisson, Bradley L.
Total Number of Pages in This Submission	Attorney Docket Number	015389-002616US

ENCLOSURES (Check all that apply)		
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Remarks		The Commissioner is authorized to charge any additional fees to Deposit Account 20-1430.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm or Individual	Townsend and Townsend and Crew LLP Scott L. Aussenhus Reg. No. 42,271	
Signature		
Date	10-06-03	

CERTIFICATE OF TRANSMISSION/MAILING			
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PATENT
Attorney Docket No.: 015389-002616US
Client Reference No.: 018/210C

On 10/06/03

TOWNSEND and TOWNSEND and CREW LLP

By: Nicole M. Wartell
Nicole M. Wartell

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Thomas R. Cech et al.

Application No.: 09/721,506

Filed: November 22, 2000

For: HUMAN TELOMERASE
CATALYTIC SUBUNIT

Examiner: Sisson, Bradley L.

Art Unit: 1634

SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT UNDER 37
CFR §1.97 and §1.98

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The references cited on attached form PTO/SB/08A and PTO/SB/08B are being called to the attention of the Examiner. Copies of the references are enclosed. It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no

representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement.

However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,



Scott L. Ausenhus
Reg. No. 42,271

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60037323 v1



Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 1 of 5

Complete if Known

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U.S. PATENT DOCUMENTS+

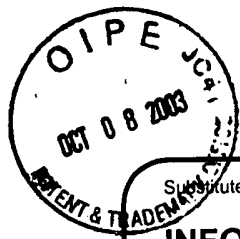
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number Kind Code ² (if known)			
	A1	US-5,597,697	01-28-1997	Diamond	
	A2	US-5,917,025	06-29-1999	Collins	
	A3	US-6,309,867 B1	10-30-2001	Cech et al.	
	A4	US-6,337,200 B1	01-08-2002	Morin	
	A5	US-6,610,839 B1	08-26-2003	Cech et al.	
	A6	US-6,617,110 B1	09-09-2003	Cech et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)				
	B1	GB	2 317 891	A ✓	04-08-1998			<input type="checkbox"/>
	B2	PCT	WO 93/23572	A1 ✓	11-25-1993			<input type="checkbox"/>
	B3	PCT	WO 94/17210	A1 ✓	08-04-1994			<input type="checkbox"/>
	B4	PCT	WO 98/14592	A2 ✓	04-09-1998			<input type="checkbox"/>
	B5	PCT	WO 98/14593	A2 ✓	04-09-1998			<input type="checkbox"/>
	B6	PCT	WO 98/23759	A2 ✓	06-04-1998			<input type="checkbox"/>
	B7	PCT	WO 99/33998	A2 ✓	07-08-1999			<input type="checkbox"/>
	B8	PCT	WO 99/38964	A2 ✓	08-05-1999			<input type="checkbox"/>
	B9	PCT	WO 00/46355	A2 ✓	08-10-2000			<input type="checkbox"/>

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2 of 5

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Application Number	09/721,506
Filing Date	November 22, 2000
First Named Inventor	Cech, Thomas
Art Unit	1634
Examiner Name	Sisson, Bradley L.
Attorney Docket Number	015389-002616US

NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C1	ADAMSON, D. et al. "Significant Telomere Shortening in Childhood Leukemia", <i>Cancer Genet. Cytogenet.</i> , 1992; pp. 204-206, Vol. 61	<input type="checkbox"/>
	C2	AUTEXIER, CHANTAL, et al., "Telomerase and cancer: revisiting the telomere hypothesis; Trends in Biochemical Sciences, 1996, pp. 387-391, Vol. 10, No. 21.	<input type="checkbox"/>
	C3	AVILION, A., "Characterization and expression of human telomerase," <i>Dissertation Abstracts International</i> , 1996, pp. 5930-B, Vol. 56, No. 11	<input type="checkbox"/>
	C4	BARINGA, MARCIA, "The Telomerase Picture Fills In", <i>Science</i> , April 25, 1997; pp. 528-529, Vol. 276	<input type="checkbox"/>
	C5	CHIU, et al. "Replicative senescence and cell immortality: the role of telomeres and telomerase (44075)", <i>Proc. Soc. Exp. Bio. Med.</i> , 1997, pp. 99-106, Vol. 214.	<input type="checkbox"/>
	C6	CHONG, L. et al. "A Human Telomeric Protein", <i>Science</i> , Dec. 1995, pp. 1663-1667, Vol. 270.	<input type="checkbox"/>
	C7	COLLINS, KATHLEEN, "Structure and function of telomerase", <i>Current Opinion in Cell Biology</i> , 1996, pp. 374-380, Vol. 8	<input type="checkbox"/>
	C8	COUNTER, C. et al. "Telomerase Activity in Normal Leukocytes and in Hematologic Malignancies" <i>Blood</i> ; May 1, 1995; pp. 2315-2320, Vol. 85, No. 9.	<input type="checkbox"/>
	C9	COUNTER, C. et al. "Telomere shortening associated with chromosome instability is arrested in immortal cells which express telomerase activity", <i>The EMBO Journal</i> ; 1992, pp. 1921-1929, Vol. 11; No. 5, Oxford University Press.	<input type="checkbox"/>
	C10	DE LANGE, T. et al. "Structure and Variability of Human Chromosome Ends"; <i>Molecular and Cellular Biology</i> ; February 1990; pp. 518-527, Vol. 10, No. 2.	<input type="checkbox"/>
	C11	FLAVELL, R. & MATHIAS, R. "Prospects for transforming monocot crop plants", <i>Nature</i> , 12 Jan. 1984, pp. 108-109, Vol. 307.	<input type="checkbox"/>
	C12	FRESHNEY, <i>Culture of Animal Cells, A Manual Basic Technique</i> , p. 4, Alan R. Liss, Inc. New York, 1983.	<input type="checkbox"/>
	C13	Genbank Accession No. A46242; September 21, 1993	<input type="checkbox"/>
	C14	Genbank Accession No. L38903; January 30, 1995	<input type="checkbox"/>
	C15	Genbank Accession No. Q06163; November 01, 1995	<input type="checkbox"/>
	C16	Genbank Accession No. S39696; October 07, 1994	<input type="checkbox"/>

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Sheet 3 of 5

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	C17	Genbank Accession No. S53396; May 5, 1995	<input type="checkbox"/>
	C18	GenBank Accession No. U95964; May 5, 1997	<input type="checkbox"/>
	C19	GenBank Accession No. W70315; June 19, 1996	<input type="checkbox"/>
	C20	GLASER, P. et al. "Bacillus subtilis genome project: cloning and sequencing of the 97 kb region from 325° to 333°" <i>Molecular Microbiology</i> , 1993, pp. 371-384, Vol. 10, No. 2.	<input type="checkbox"/>
	C21	GOODMAN, R. et al. "Gene Transfer in Crop Improvement", <i>Science</i> , 3 April 1997, pp. 48-54, Vol. 236.	<input type="checkbox"/>
	C22	GREIDER, C. "Telomeres, Telomerase and Senescence"; <i>BioEssays</i> ; 1990; pp. 363-369, Vol. 12, No. 8.	<input type="checkbox"/>
	C23	HARLEY, C. "Telomere loss: Mitotic clock or genetic time bomb?" <i>Mutation Research</i> ; 1991; pp. 271- 282, Vol. 256, Elsevier Science Publishers.	<input type="checkbox"/>
	C24	HARLEY, C. & VILLEPONTEAU, B. "Telomeres and telomerase in aging and cancer" <i>Current Opinion in Genetics and Development</i> ; 1995, pp. 249-255, Vol. 5.	<input type="checkbox"/>
	C25	HARLEY, C. et al. "Telomeres shorten during ageing of human fibroblasts", <i>Nature</i> , 31 May 1990; pp. 458-460, Vol. 345.	<input type="checkbox"/>
	C26	HASTIE, N. et al. "Telomere reduction in human colorectal carcinoma and with ageing", <i>Nature</i> , 30 August 1990, pp. 866-868, Vol. 346.	<input type="checkbox"/>
	C27	HEALY, K. C. "Telomere dynamics and telomerase activation in tumor progression: prospects for prognosis and therapy" <i>Oncol. Res.</i> , 1995, pp. 121-130, Vol. 7	<input type="checkbox"/>
	C28	HENDERSON, C. Cancer genetics gene regulates telomerase resulting in death of cancer cells; <i>Gene Therapy Weekly</i> , 11 September 1995.	<input type="checkbox"/>
	C29	HIYAMA, E. et. al. "Correlating telomerase activity levels with human neuroblastoma outcomes"; <i>Nature Medicine</i> ; 3 March 1995; pp. 249-255, Vol. 1, No. 3.	<input type="checkbox"/>
	C30	HOLTZMANN, K. et al. "Telomeric Associations and Loss of Telomeric DNA Repeats in Renal Tumors", <i>Genes, Chromosomes & Cancer</i> , 1993, pp. 178-181, Vol. 6.	<input type="checkbox"/>
	C31	JÄHNE, A. et al. "Genetic Engineering of Cereal Crop Plants: A Review", <i>Euphytica</i> , 1995, pp. 35-44, Vol. 85, Kluwer Academic Publishers, Netherlands.	<input type="checkbox"/>
	C32	JOLLIFFE, L.K. "Humanized antibodies: enhancing therapeutic utility through antibody engineering", <i>Int. Rev. Immunol.</i> , 1993, pp. 241-250, Vol. 10	<input type="checkbox"/>
	C33	KIM, N. et al. "Specific Association of Human Telomerase Activity with Immortal Cells and Cancer", <i>Science</i> , 23 December 1994, pp. 2011-2014, Vol. 266.	<input type="checkbox"/>

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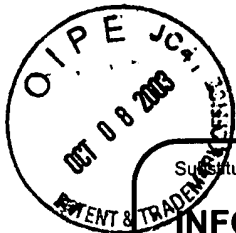
NON PATENT LITERATURE DOCUMENTS

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	C34	KLINGELHUTZ, A. et al. "Restoration of Telomeres in Human Papillomavirus- Immortalized Human Anogenital Epithelial Cells"; <i>Molecular and Cellular Biology</i> ; Feb. 1994, pp. 961-969, Vol. 14, No. 2.	<input type="checkbox"/>
	C35	LEWIS, A. & CROWE, J.S. "Generation of humanized monoclonal antibodies by 'best fit' framework selection and recombinant polymerase chain reaction", <i>Year Immunol.</i> , 1993, pp. 110-118, Vol. 7	<input type="checkbox"/>
	C36	Linking telomerase and tumors; <i>Genesis Report- Dx</i> ; 1995; Vol. 4, No. 6; Publisher Genesis Group Associates.	<input type="checkbox"/>
	C37	LUNDBLAD, V. & BLACKBURN, E., Letter to the Editor entitled, "RNA-Dependent Polymerase Motifs in EST1: Tentative Identification of a Protein Component of an Essential Yeast Telomerase", <i>Cell</i> , 23 Feb. 1990, pp. 529-530, Vol. 60.	<input type="checkbox"/>
	C38	LUSTIG, ARTHUR J., "The identification of telomerase subunits: catalysing telomere research", <i>Trends in Cell Biology</i> ; August 1997, pp. 299-302, Vol. 7.	<input type="checkbox"/>
	C39	MALICKI, J. et al. "A human <i>HOX4B</i> regulatory element provides head-specific expression in <i>Drosophila</i> embryos", <i>Nature</i> , 23 July 1992, pp. 345-357, Vol. 358.	<input type="checkbox"/>
	C40	NAKAYAMA, J. et al. "Cloning of a Candidate cDNA Encoding a Proteinaceous Component of Mammalian Telomerase", <i>Molecular Biology Cell Abstracts Supp.</i> 7, 1996, p. 875-884, 286a Section 1664.	<input type="checkbox"/>
	C41	NATARAJAN et al. "Major histocompatibility complex determinants select T-cell receptor alpha chain variable region dominance in a peptide-specific response." <i>Proc. Natl. Acad. Sci.</i> , Oct 1992, pp. 8874-8878, Vol. 19.	<input type="checkbox"/>
	C42	PASZKOWSKI, JERZY et al. "Direct gene transfer to plants," <i>The EMBO Journal</i> , 1984, pp. 2717-2722, Vol. 3, No. 12.	
	C43	POTRYKUS, I. et al. "Direct gene transfer to cells of a graminaceous monocot", <i>Mol. Gen. Genet.</i> , 1985, pp. 183-188, Vol. 199.	<input type="checkbox"/>
	C44	RAYMOND, E., et al.; Agents that target telomerase and telomeres; <i>Curr. Opin. Biotechnol.</i> ; 1996; 7:583-91	<input type="checkbox"/>
	C45	RHYU, M.S. "Telomeres, telomerase, and immortality"; <i>J. Natl. Cancer Inst.</i> ; 21 June 1995; pp. 884-894, Vol. 87, No. 12.	<input type="checkbox"/>
	C46	SCHENA et al. "Parallel human genome analysis: Microarray-based expression monitoring of 1000 genes", <i>Proc. Natl. Acad. Sci.</i> , Oct. 1996, pp. 10614-10619, Vol. 93, USA.	<input type="checkbox"/>
	C47	SCHWARTZ, H. et al. "Telomere Reduction in Giant Cell Tumor of Bone and with Aging"; <i>Cancer Genet Cytogenet</i> ; 1993; pp. 132-138, Vol. 71, Elsevier Science Publishing Co., Inc., New York, U.S.A.	<input type="checkbox"/>
	C48	SINGER, M. "Unusual Reverse Transcriptases", <i>Journal of Biological Chemistry</i> ; 1995, pp. 24623-23626, Vol. 270, No. 42	<input type="checkbox"/>
	C49	SMITH, J. & YEHL, G. "Telomere Reduction in Endometrial Adenocarcinoma"; <i>Am. J. Obstet. Gynecol.</i> ; Dec. 1992; pp. 1883-1887, Vol. 167, No. 6	<input type="checkbox"/>

Examiner Signature	Date Considered
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	C50	TAIT, J. et al. "Structure and Polymorphisms of the Human Annexin III (ANX3) Gene", <i>Genomics</i> , 1993, pp. 79-86, Vol. 18, No. 1	<input type="checkbox"/>
	C51	WINTER, G. & HARRIS, W. "Humanized Antibodies", <i>Trends Pharmacol. Sci.</i> , May 1993, pp. 139-143, Vol. 14.	<input type="checkbox"/>
	C52	WIRTH, URS et al; "Immediate-Early RNA 2.9 and Early RNA 2.6 of Bovine Herpesvirus 1 Are 3' Coterminal and Encode of Putative Zinc Finger Transactivator Protein"; <i>Journal of Virology</i> ; May 1992; pp. 2763-2772, Vol. 66, No. 5.	<input type="checkbox"/>
	C53	ZAUG, ARTHUR et al., "Method for determining RNA 3' ends and application to human telomerase RNA", <i>Nucleic Acids Research</i> , 1996, pp. 532-533, Vol. 24, No. 3.	<input type="checkbox"/>

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